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REMARKS

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This is an amendment filed under 37 CFR 1.111 and responsive to the office action dated Jan 27, 2005. Claims 38, 40-44, 47, 49-51, 53-55, 57, 59, 60, 63, 66, 68-70, 74, 81, and 83 were allowed in the office action of Jan 27, 2005.

With regard to the 35 USC 112 rejection of claims 39, 56, and 71, applicant notes that azimuthal wavenumber index p and radial wave number q are merely arbitrary variables assigned to mode indices known in the prior art of travelling wave modes, and fully defined in the specification paragraph starting on page 4 line 5. However, to exactly correspond to the specification recitation of the same formulas with m and n as indices on page 21 lines 10-16 for asymmetric travelling waves, the claims have been amended to make reference to m and n rather than p and q .

With regard to the examiner statement that arc cos term does not relate to the physical structure of the power combiner, applicant notes the penultimate sentence found on page 21 line 17-18, which notes that when the product formed on page 21 line 13 (including the constituent multiplicative \cos^{-1} term) is an integer, the final waveguide 88 can be a simple cylinder. The indices m and n reference the travelling wave

1 modes best supported by the structure. Reconsideration is
2 requested.

3 With regard to the 35 USC 112 rejection of claims 45,
4 46, 61, 62, 76, and 77 for lack of antecedent basis for
5 "said feed waveguide helical section angle", these dependant
6 claims now rely on dependant claims 40, 40, 57, 57, 72, 72,
7 respectively, which contain the limitation "feed waveguide
8 helical section angle".

9 With regard to the 35 USC 112 rejection of claims 52,
10 67, and 82 for lack of antecedent basis for "said input
11 waveguide" and "said input power", applicant has amended
12 these claims to make antecedent reference to "feed waveguide
13 input port" and removed the reference to "said input power".

14 With regard to the 35 USC 112 rejection of claims 58,
15 64, 73, 76, 77, and 79 for lack of antecedent basis for
16 "said central axis", this term has been amended into claims
17 55, 55, 70, 72, 72, and 70, respectively.

18 With regard to the 35 USC 112 rejection of claim 72 for
19 lack of antecedant basis for the term "said radius" and
20 "said feed waveguide axis", independant claim 70 properly
21 referenced "each said feed waveguide...rolled into a
22 cylinder with an axis". Nevertheless, claim 70 has been
23 amended to explicity reference "feed waveguide axis" and
24 "feed waveguide radius" in amended claims 70 and 72.

1 With regard to the 35 USC 112 rejection of claim 75 for
2 lack of antecedent basis for the term "said feed waveguide
3 radius", the previously referenced amendment of claim 70
4 addresses this matter.

5 With regard to the 35 USC 112 rejection of claims 76
6 and 77 for lack of antecedent basis of "said feed waveguide
7 center axis", these claims have been amended to delete the
8 word "center" and now depend on claim 72.

9 With regard to the 35 USC 112 rejection of claim 78 for
10 lack of antecedent basis for "said feed waveguide helical
11 launch port", this claim has been amended to reference the
12 "launch end" found in independent claim 70.

13 With regard to the 35 USC 112 rejection of claim 84 for
14 lack of antecedent basis for "said reflector waveguide", the
15 claim has been amended to reference "said final waveguide".

16 Reconsideration is requested for the above claims.

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18 With this amendment, the present application is in
19 condition for allowance.

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Respectfully Submitted,

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Jay Chesavage

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Registration No. 39,137

37 CFR 1.111 Amendment for: Power Combiner by Mobius and Ives